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I hereby certify that I am transmitting this correspondence to the Commissioner for Patents at the United States Patent and Trademark Office by telephone facsimile to telephone number (571) 273-8300 on June 30, 2006.

By: *Michael Neary*

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June 30, 2006
Date: June 30, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Gerald J. Julien)	
)	Group A.U. 3618
Serial No.:	10/505,356)	
)	Examiner: John Daniel Walters
Filing Date:	August 19, 2004)	
Title:	Nitinol Ice Blades)	

Response under Rule 111

June 30, 2006

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the outstanding Office Action dated March 31, 2006, Applicant respectfully requests that the above-identified application be amended as follows:

Argument

The Examiner has required that Applicant's Figs. 1-4 be labeled as Prior Art because "only that which is old is illustrated." Applicant respectfully traverses this requirement. Figs. 1-4 are identified in the Description of the Drawings as hockey skates having skate blades made of Nitinol. This is not prior art. Applicant is not going to label an embodiment of his invention as prior art. The conventional parts in Figs. 1 and 2 are the attachment structures 32 for engaging complementary

structures 34 on the blade holder 26. This is stated in the first paragraph on the Detailed Description of the Preferred Embodiments with abundant clarity, as follows:

These structures 32 and 34 are conventional and are well known to those skilled in the art.

Thus, Applicant has not stated, as the Examiner incorrectly paraphrases, that "the physical structure shown in said figures is '...conventional and well known to those skilled in the art.' Instead, Applicant stated that "these structures 32 and 34 are conventional and are well known to those skilled in the art." Thus, Applicant carefully and accurately identified what was old in the drawing, but definitely did not say that this embodiment of his own invention was old.

The drawings have been objected to because the sheet of drawings with Figs. 9 and 10 is missing from the PTO file. This sheet of drawings was included with a Preliminary Amendment that was filed with this U.S. Utility Application on August 19, 2004. Since this Preliminary Amendment has evidently been lost by the PTO, Applicant is enclosing another copy herewith, along with a copy of the drawings that were transmitted by the Preliminary Amendment. Applicant is marking each of these replacement drawings "Replacement Sheet".

The drawings have also been objected to because the reference numerals 50, 52, 56 and 58 are not shown. These numerals are shown in the 4th attached sheet of drawings with Figs. 9 and 10.

The specification has been objected to because a description of Figs. 11-14 is missing. The description of Figs. 11-14 was added with the Preliminary Amendment, copy attached, filed with the original U.S. application.

Claims 1-4 have been rejected under 35 USC 103 as unpatentable over Applicant's own disclosure, on the ground that Applicant had admitted that the invention defined in those claims was conventional and well known to those skilled in the art. Applicant respectfully traverses this ground of rejection. Applicant asserts that it would not have been obvious to a person of ordinary skill in the art to use Type 60 Nitinol for an ice skate blade because the physical properties of 60 Nitinol, specifically its modulus and its load resistance in conventional three-point bending

tests, and also its hardness, appear to make it a worse candidate for skate blades than conventional steel. Moreover, 60 Nitinol is much more expensive than steel and is much harder to cut, so making blades out of 60 Nitinol is much more difficult and sharpening the blades with conventional grinding wheels is almost impossible. These considerations would be enough to convince a person of ordinary skill in the art that 60 Nitinol would be a poor candidate for skate blade material.

Even if a person of ordinary skill in the art were determined enough to actually make and test skate blades made of 60 Nitinol, in spite of the evident factors noted above indicating the undesirability of 60 Nitinol as a skate blade material, he would quickly conclude that it would not be suitable for skate blades. Type 60 Nitinol skate blades feel different to skaters than conventional steel blades. They feel like dull steel blades and skaters feel unstable on the blades, even when standing in a neutral position. It takes several hours to get used to the different way the skates feel on the ices and, without knowing that the performance will be better after becoming accustomed to the way the Nitinol skate blades feel, a person of ordinary skill in the art would reject them as inferior to convention skate blades.

These notions about how those of ordinary skill in the art would react to the idea of using 60 Nitinol for skate blades are not merely Applicant's opinions. They have, unfortunately, been proven in painful experience during the promotion efforts of Applicant's licensee, Triumph Sport, Inc., as set forth in detail in the attached Declaration under Rule 132 by the President of Triumph Sport, Inc., Susan Buchanan. This Declaration describes the reaction of CCM, also known as Sport Masko, Inc., one of the biggest skate manufacturers in the world, to the offer of Nitinol skate blades for CCM's skates. It should be noted that CCM did not identify 60 Nitinol as a potential skate blade material even though it had existed since the early 1960's; it was brought to their attention by Triumph Sport. CCM did not need to discover how to make skate blades from 60 Nitinol; the sample blades were supplied by Triumph Sport from sample supplied by Applicant. CCM did not have to learn how to sharpen the 60 Nitinol blades; the special grinding wheels and processes were supplied by Triumph Sport. Yet, even after being lead by the hand through all the difficult steps that the Examiner assumes to have been obvious to a person of

ordinary skill in the art, CCM (some of the world's foremost experts in skating) concluded that 60 Nitinol skates do not afford any significant benefits, and they declined to consider that matter any further. CCM were not the only experts who declined the offer by Triumph Sport to adopt 60 Nitinol skate blades.

If experts like CCM and others in the industry can conclude that 60 Nitinol is not a suitable material for skate blades, even after having the benefits explained to them in detail and having sample blades provided, Applicant can only conclude that a person of ordinary skill in the art, lacking the extensive experience and accumulated knowledge of a leader in the skating industry, would not come to any wiser conclusion. There is no better test of what is obvious to a person of ordinary skill in the art than the reaction of experts in the art. The test of obviousness is not the perception of extraordinary visionaries like Applicant and Applicant's licensee Susan Buchanan, but what would have been obvious to persons of ordinary skill in the art. Applicant believes that the experts in the skating industry have proven conclusively that the use of 60 Nitinol for skate blades was unobvious, even after being introduced to it in great detail, and it certainly would have been unobvious to a person of ordinary skill in the art just because it was one of hundreds of thousands of potentially usable materials that existed.

Claim 5 has been rejected under 35 USC 103 as obvious under 35 USC 103 as unpatentable over Tschida P/N 5,287,657. Tschida discloses a skate grinding machine having grinding wheel that can be dressed to give the grinding wheel the shape desired by the operator. The wheel dressing is in maximum increments of 0.003". This is the amount for grinding wheel dressing, not for blade grinding. Tschida does not teach the shallow passes of grinding of Nitinol blades claimed in claim 5. Wheel dressing and blade grinding are entirely different processes.

The Examiner is correct in one respect: Tschida does not teach the grinding wheel material claimed in claim 5. The Examiner assumes that if a grinding material is available, it must be obvious to use it with a particular grinding pass depth, to produce the desired result. In fact, it took Applicant years to discover the correct grinding material and the correct grinding depth to grind 60 Nitinol successfully. Even

after the grinding wheels and the process was disclosed to CCM, they still were unable to achieve satisfactory results. Type 60 Nitinol is very difficult material to grind successfully and deviations from the correct process can result in disaster. When it is a question of trying different available grinding wheels from among the hundreds or thousands of available materials, the prospect is daunting task in itself. However, when the other variations involved to grinding, including grind wheel speed and feed speed, the possibilities become virtually endless.

It is easy to reach a breezy conclusion that it is all obvious because all it requires is routine experimentation, but when the practical realities become known and the prospect of experimentation involving the possible catastrophic destruction of materials and equipment are factored in, it begins to look less obvious. Applicant's experience with experts in the grinding field is ample demonstration of that fact. One expert he hired to grind some 60 Nitinol parts sneered at his warning about how difficult it was to grind this material. He said he had never encountered a metal he could not grind. Afterward, Applicant was told to get his parts out of the facility and never come back. The expert had destroyed some very expensive grinding wheels attempting to grind 60 Nitinol. This was an expert, not an ordinary worker in the art. It may be that the Examiner knows more than experts in the grinding art, but that would make him a supreme expert. What is obvious to supreme experts in the art is not the standard.

Claims 6-12 have been rejected under 35 USC 103 as unpatentable over a publication authored by Ming Wu. Wu's description deals with Type 55 Nitinol, that is, one titanium atom for each nickel atom. That is a weight ratio of 55/45 for nickel/titanium, since nickel is more dense than titanium. Wu does not disclose processes for Type 60 Nitinol. Moreover, as noted above for claims 1-4, the use of 60 Nitinol for skate blades, as claimed in claims 6-12, would not have obvious to a person of ordinary skill in the art at the time this invention was made.

Wu's disclosure does not teach the percentage reduction in 60 Nitinol claimed in claim 6, and he does not teach immediate quenching of ice skate blades to ambient temperature after heating to 600°C-800°C to produce ice skate blades to a

hardness of about 48-53RC, and he does not teach grinding the 60 Nitinol blade to a desired profile. In fact, Wu teaches nothing about 60 Nitinol. Wu is not a reference for a single element of the subject matter claimed in claim 6.

Since Wu does not teach anything about Type 60 Nitinol or about the use of Type 60 Nitinol in skate blades, it does not seem fruitful to list all the other details about the processing of Type 60 Nitinol in claims 7-12 that Wu does not teach. The Examiner has not pointed out how or where he thinks that Wu teaches this subject matter. If he really thinks that Wu is a proper reference against these claims despite the fact that Wu does not teach the use of 60 Nitinol for skate blades, or in fact anything about 60 Nitinol, Applicant would welcome a specific identification of where in Wu this teaching occurs. Applicant has not been able to find any such specific teaching in Wu, but would happily deal with it if the Examiner would show where he thinks it is taught.

Accordingly, Applicant believes that the claims in this application do define subject matter that is patentable over the prior art and respectfully requests that the Examiner pass this application to issue.

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Respectfully submitted,



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